

§ 23.975

(b) Spilled fuel must be prevented from entering the fuel tank compartment or any part of the airplane other than the tank itself.

(c) Each filler cap must provide a fuel-tight seal for the main filler opening. However, there may be small openings in the fuel tank cap for venting purposes or for the purpose of allowing passage of a fuel gauge through the cap provided such openings comply with the requirements of § 23.975(a).

(d) Each fuel filling point, except pressure fueling connection points, must have a provision for electrically bonding the airplane to ground fueling equipment.

(e) For airplanes with engines requiring gasoline as the only permissible fuel, the inside diameter of the fuel filler opening must be no larger than 2.36 inches.

(f) For airplanes with turbine engines, the inside diameter of the fuel filler opening must be no smaller than 2.95 inches.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964; 30 FR 258, Jan. 9, 1965, as amended by Amdt. 23-18, 42 FR 15041, Mar. 17, 1977; Amdt. 23-43, 58 FR 18972, Apr. 9, 1993; Amdt. 23-51, 61 FR 5136, Feb. 9, 1996]

§ 23.975 Fuel tank vents and carburetor vapor vents.

(a) Each fuel tank must be vented from the top part of the expansion space. In addition—

(1) Each vent outlet must be located and constructed in a manner that minimizes the possibility of its being obstructed by ice or other foreign matter;

(2) Each vent must be constructed to prevent siphoning of fuel during normal operation;

(3) The venting capacity must allow the rapid relief of excessive differences of pressure between the interior and exterior of the tank;

(4) Airspaces of tanks with interconnected outlets must be interconnected;

(5) There may be no point in any vent line where moisture can accumulate with the airplane in either the ground or level flight attitudes, unless drainage is provided. Any drain valve installed must be accessible for drainage;

(6) No vent may terminate at a point where the discharge of fuel from the

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vent outlet will constitute a fire hazard or from which fumes may enter personnel compartments; and

(7) Vents must be arranged to prevent the loss of fuel, except fuel discharged because of thermal expansion, when the airplane is parked in any direction on a ramp having a one-percent slope.

(b) Each carburetor with vapor elimination connections and each fuel injection engine employing vapor return provisions must have a separate vent line to lead vapors back to the top of one of the fuel tanks. If there is more than one tank and it is necessary to use these tanks in a definite sequence for any reason, the vapor vent line must lead back to the fuel tank to be used first, unless the relative capacities of the tanks are such that return to another tank is preferable.

(c) For acrobatic category airplanes, excessive loss of fuel during acrobatic maneuvers, including short periods of inverted flight, must be prevented. It must be impossible for fuel to siphon from the vent when normal flight has been resumed after any acrobatic maneuver for which certification is requested.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964; 30 FR 258, Jan. 9, 1965, as amended by Amdt. 23-18, 42 FR 15041, Mar. 17, 1977; Amdt. 23-29, 49 FR 6847, Feb. 23, 1984; Amdt. 23-43, 58 FR 18973, Apr. 9, 1993; Amdt. 23-51, 61 FR 5136, Feb. 9, 1996]

§ 23.977 Fuel tank outlet.

(a) There must be a fuel strainer for the fuel tank outlet or for the booster pump. This strainer must—

(1) For reciprocating engine powered airplanes, have 8 to 16 meshes per inch; and

(2) For turbine engine powered airplanes, prevent the passage of any object that could restrict fuel flow or damage any fuel system component.

(b) The clear area of each fuel tank outlet strainer must be at least five times the area of the outlet line.

(c) The diameter of each strainer must be at least that of the fuel tank outlet.